

Project Code and Title

B.02.01.01.05 The Pattern and Consequences of Injuries Occurring in Collision of Vehicles With Modern Occupant Protection Systems

Project Objective

The main objective of the research is to identify the patterns and consequences of injuries sustained by restrained occupants (either by seat belts or air bags) involved in motor vehicle crashes. Specific injuries, physiologic derangements, morbidity and health related costs will be determined for these occupants.

Background

Under mandate by Congress, NHTSA has created a team of medical, biomechanical engineering and crash injury statistics researchers to advance the scientific understanding of crash injuries and identify potential countermeasures to mitigate injuries and their consequences.

Problem Definition

The introduction of both front and side air bags and other technological advances in vehicle restraint systems, designed to protect occupants in both front and side impact crashes, is both reducing overall injury severity, but also radically altering the pattern of injuries. There is a need to understand what this change is, what the injury mechanisms are, what are the costs associated with this, and what could be done to mitigate these injuries. In addition there is a need to monitor the effect of FMVSS 208 and 214 which regulate frontal and side protection.

Research Approach

The program will collect about 50 cases per year of patients involved in motor vehicle crashes and admitted to R. Adams Cowley Shock Trauma Center. The following data on injured patients will be collected:

- 1) Characteristics of the motor vehicle crashes (motorway factors);
- 2) Injury patterns and severity as related to body contact points with car structures;
- 3) Hospital and physician fee charges of inpatient and follow-up care.

Potential Impact/Application

The study would identify the key area of trauma and the major costs associated with them. By linking these with injury mechanisms it will be possible to identify the key points for further design and research effects to reduce injuries and cost.

Key Milestones

- Analysis of 120 cases by late -1999 in order to make recommendations to the Agency by end-1999.

RESOURCE REQUIREMENTS	FY 95	FY 96	FY 97	FY	FY
Contract Money (\$K)	230	250	275		

Project Manager(s)

Nopporn Khaewpong

Completion Date

May 1999

Project Tasks

<u>Task</u>	<u>Title and Description</u>
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| Task 1: | Collection of about 40 cases per year of restrained children involved in motor vehicle crashes and admitted to the level I Trauma center of the School of Medicine of the University of Maryland at Baltimore (UMAB). |
| Task 2: | Analysis of data to help in development of strategies for injury prevention. |
| Task 3: | Preparation of final report. |

Task	Start Date	Projected Completion Date	Status/Responsibility
1	6/96	5/99	In progress
2	6/97	open	In progress
3	1/99	5/99	

Supporting Contracts

Task	Contract Number	COTR (phone)	Contracting Officer (phone)	Total Contract Cost (\$K)
	DTNH22-96-H-07283	(202)366-4703	Joseph A. Comella (202)366-9568	755